

Please replace the existing Figure 10 with the enclosed new Figure 10.

In the Claims

Change the claims as follows:

*Sub B1*  
1. (amended) A high efficiency lighting system for maintaining normal lighting conditions by lighting fixtures requiring DC electrical power comprising:

power control means for receiving AC electrical power from a grid source and delivering required [low voltage] DC electrical power to said lighting fixtures;

said power control means converting said AC electrical power to DC electrical power;

*as*  
battery means for providing on a standby basis said required DC [low voltage] electrical power [to] through said power control means;

said battery means being connected to said power control means for being maintained in a fully charged condition by said power control means during normal supply of AC electrical power from said grid source;

said power control means delivering said required DC electrical power from said battery means to said lighting fixtures only during an AC electrical power outage to maintain without interruption normal lighting by said lighting fixtures.

*Sub*

2. (amended) The high efficiency lighting system of Claim 1 [having] further comprising multiple power control means each connected to [it's own] respective battery means for maintaining [the] lighting fixtures in a building with multiple rooms.

*or*

3. (amended) The high efficiency lighting system of Claim 1 [having] further comprising a photovoltaic source of DC electrical power connected to said power control means for reducing the amount of AC electrical power taken from said grid source when said AC electrical power reaches a predetermined limit.

4. (amended) A high efficiency lighting system for lighting fixtures requiring DC [low voltage] electrical power comprising:

power control means for receiving AC electrical power from a grid source and delivering required [low voltage] DC electrical power to said lighting fixtures;

said power control means converting said AC electrical power to DC electrical power;

photovoltaic means for delivering DC [low voltage] electrical power [to] through said power control means;

said power control means reducing the electrical power taken from said grid source by the amount of electrical power supplied

by said photovoltaic means[.] and

*an* battery means for providing on a standby basis said required DC electrical power to said power control means, said power control means maintaining said battery means in a fully charged condition by electrical power from said grid source.

---

Cancel claims 5 and 6.

Please amend Claim 7 as follows:

---

*a3* 7. (amended) The high efficiency lighting system as in Claim [6] 1, further comprising a DC power cogenerator directly coupled to said lighting fixtures through a diode isolator allowing either AC or DC power to operate said lighting fixtures.

---

Cancel claim 8 and substitute the following therefor:

---

*Original* ~~22. A high efficiency lighting system comprising:  
a plurality of lighting fixtures distributed throughout a building, each of said fixtures requiring DC electrical power for operation;~~

~~power control means in a single location for receiving AC electrical power from a grid source and converting said AC electrical power to DC electrical power; and means for distributing said DC electrical power to said lighting fixtures~~

Sub B5  
Cameo  
thereby obviating the need for converting AC to DC at each of  
said lighting fixtures.

23. The lighting system of claim 22 having battery means  
for providing on a standby basis DC electrical power to said  
power control means during an AC electrical outage to maintain  
without interruption normal lighting by said lighting fixtures,  
said battery means being connected to said power control means  
for being maintained in a fully charged condition by said power  
control means during normal supply of AC electrical power from  
said grid source and supplying DC electrical power to said  
lighting fixtures when there is an AC power outage.

Sub B2  
9. (amended) A DC power supply system for DC loads  
requiring DC electrical power comprising:

a plurality of DC loads distributed throughout a building,  
each of said loads requiring DC electrical power for operations;

power control means for receiving AC electrical power from a  
grid source and delivering required [low voltage] DC electrical  
power to said DC [load] loads;

said power control means converting said AC electrical power  
to DC electrical power;

battery means for providing on a standby basis said required  
DC [low voltage] electrical power [to] through said power control

means;

said battery means being connected to said power control means for being maintained in a fully charged condition by said power control means during normal supply of AC electrical power from said grid source; and

as  
said power control means delivering said required DC electrical power from said battery means to said DC [load] loads during an AC electrical power outage to maintain without interruption normal operation of the DC [load] loads; and,

said power control means also delivering said required DC electrical power from said battery means to said loads through a voltage change of said power control means.

---

In Claim 10, line 1, delete "9" and insert --1--.

In Claim 11, line 1, delete "9" and insert -1--.

Cancel claims 12.

Please amend Claim 13 as follows:

13. (amended) A DC power supply system for DC loads requiring DC electrical power from a DC power source and delivering required [low voltage] DC electrical power to said DC loads,

said power control means controlling charging of a battery means;

said battery means providing on a standing basis said

required DC [low voltage] electrical power [to] through said power control means;

said battery means being connected to said power control means for being maintained in a charged condition by said power control means during hours of input from said DC power source and;

G6 said power control means delivering said required DC electrical power from said battery means to said DC load during periods of time when a predetermined amount of said power from said DC power supply is not available.

Please cancel Claims 17, 18, 20 and 21.

Please add new Claims <sup>22 36</sup> 24-41 as follows:

Amended 24. A high efficiency lighting system for maintaining normal lighting conditions by lighting fixtures requiring DC electrical power comprising:

power control means for receiving AC electrical power from a grid source and delivering required DC electrical power to said lighting fixtures;

said power control means converting said AC electrical power to DC electrical power;

battery means for providing on a standby basis said required DC electrical power [to] through said power control means when

Q1. said AC electrical power reaches a predetermined threshold limit;

said battery means being connected to said power control means for being maintained in a fully charged condition by said power control means during normal supply of AC electrical power from said grid source; and

said power control means limiting said converted AC electrical power to DC electrical power when load requirements exceed said predetermined threshold limit, wherein said battery means provides any additional required DC electrical power.

25. A high efficiency lighting system for maintaining normal lighting conditions by lighting fixtures requiring DC electrical power comprising:

power control means for receiving AC electrical power from a grid source and delivering required DC electrical power to said lighting fixtures;

said power control means converting said AC electrical power to DC electrical power;

battery means for providing on a standby basis said required DC electrical power [to] through said power control means;

said battery means being connected to said power control means for being maintained in a fully charged condition by said power control means during normal supply of AC electrical power from said grid source;

said power control means delivering said required DC electrical power from said battery means to said lighting fixtures during an AC electrical power outage to maintain without interruption normal lighting by said lighting fixtures; and,

a photovoltaic source of DC electrical power connected to said power control means for reducing the amount of electrical power taken from said grid source.

26. A high efficiency lighting system for lighting fixtures requiring DC electrical power comprising:

power control means for receiving AC electrical power from a grid source and delivering required DC electrical power to said lighting fixtures;

said power control means converting said AC electrical power to DC electrical power;

photovoltaic means for delivering DC electrical power [to] through said power control means;

said power control means reducing the electrical power taken from said grid source by the amount of electrical power supplied by said photovoltaic means.

27. The high efficiency lighting system of Claim 26 having battery means for providing on a standby basis said required DC electrical power to said power control means, said power control means maintaining said battery means in a fully charged condition



by electrical power from said grid source, for maintaining without interruption the normal lighting by said lighting fixtures during a power outage.

Sub B6 28. A high efficiency lighting system for maintaining normal lighting conditions by lighting fixtures requiring DC electrical power comprising:

61 power control means for receiving DC electrical power from a photovoltaic panel and delivering required DC electrical power to said lighting fixtures;

said power control means controlling charging of a battery means;

said battery means providing on a standby basis said required DC electrical power [to] through said power control means;

said battery means being connected to said power control means for being maintained in a charged condition by said power control means during hours of input from said photovoltaic panel, and,

said power control means delivering said required DC electrical power from said battery means to said lighting fixtures during periods of time when power from said photovoltaic panel is not available.

29. A DC power supply system for DC loads requiring DC electrical power comprising:

power control means for receiving AC electrical power from a grid source and delivering required DC electrical power to said DC load;

said power control means converting said AC electrical power to DC electrical power;

an battery means for providing on a standby basis said required DC electrical power [to] through said power control means;

said battery means being connected to said power control means for being maintained in a fully charged condition by said power control means during normal supply of AC electrical power from said grid source;

said power control means delivering said required DC electrical power from said battery means to said DC load during an AC electrical power outage to maintain without interruption normal operation of the DC load; and,

a photovoltaic source of DC electrical power connected to said power control means for reducing the amount of electrical power taken from said grid source.

30. ~~A DC power supply system for DC loads requiring DC electrical power comprising:~~

~~power control means for receiving DC electrical power from a~~

stand alone DC power source not connected to a grid supplied AC electrical power source, and delivering required DC electrical power to said DC load;

said power control means controlling charging of a battery means;

said battery means providing on a standby basis said required DC electrical power [to] through said power control means;

said battery means being connected to said power control means for being maintained in a charged condition by said power control means during hours of input from said DC power source, and

said power control means delivering said required DC electrical power from said battery means to said DC load during periods of time when power from said DC power supply is not available.

31. The DC power supply system as in Claim 30 wherein said DC power source is a cogeneration unit.

32. The DC power supply system as in Claim 30 wherein said DC power source is a photovoltaic panel.

33. The DC power supply system as in Claim 30 wherein said

DC load <sup>is</sup> a household appliance.

34. A high efficiency lighting system for maintaining normal lighting conditions by lighting fixtures requiring DC electrical power comprising:

power control means for receiving AC electrical power from a grid source and delivering required DC electrical power to at least one DC load means;

Q said power control means converting said AC electrical power to DC electrical power;

battery means for providing on a standby basis said required DC electrical power [to] through said power control means;

said battery means being connected to said power control means for being maintained in a fully charged condition by said power control means during normal supply of AC electrical power from said grid source;

said power control means limiting said converted AC electrical power to DC electrical power when said AC electrical power reaches a predetermined limit; wherein said battery means provides deficit any additional DC electrical power; and,

said power control means interconnecting a first DC power supply means, a second direct current power supply means and said at least one DC load means for operation in one of three modes,

first, a mode in which said first DC power supply means

supplies all of the power for said at least one DC load means,

second, a mode in which said first DC power supply means and said second direct current power supply means share power to said at least one DC load means, and,

third, a mode in which said second direct current power supply means supplies all the power for said at least one DC load means.

35. The high efficiency lighting system as defined in claim 34 wherein said at least one DC load means is a fluorescent lighting load and said direct current supply means is in the form of storage battery means or photovoltaic panel means.

36. A high efficiency lighting system for maintaining normal lighting conditions by lighting fixtures requiring DC electrical power comprising:

power control means for receiving AC electrical power from a grid source and delivering required DC electrical power to said lighting fixtures;

said power control means converting said AC electrical power to DC electrical power;

battery means for providing on a standby basis said required DC electrical power through said power control means;

said battery means being connected to said power control means for being maintained in a fully charged condition by said power control means during normal supply of AC electrical power

from said grid source;

said power control means delivering said required DC  
electrical power from said battery means to said lighting  
fixtures through a voltage change of said power control means.

---